State of Alaska ALASKA RETIREMENT MANAGEMENT BOARD

Relating to Private Equity Annual Tactical Plan Resolution 2021-12

WHEREAS, the Alaska Retirement Management Board (Board) was established by law to serve as trustee to the assets of the State's retirement systems; and

WHEREAS, under AS 37.10.210-220, the Board is to establish and determine the investment objectives and policy for each of the funds entrusted to it; and

WHEREAS, AS 37.10.071 and AS 37.10.210-220 require the Board to apply the prudent investor rule and exercise the fiduciary duty in the sole financial best interest of the funds entrusted to it and treat beneficiaries thereof with impartiality; and

WHEREAS, the Board contracts an independent consultant to provide experience and expertise in asset allocation and other investment matters to come before the Board; and

WHEREAS, the Board has established an asset allocation for the funds that considers earnings and liabilities on a current as well as a future basis; and

WHEREAS, the Board has authorized investment in private equity assets for the State of Alaska Retirement and Benefits Plans: and

WHEREAS, the Board will establish, and on an annual basis review, an investment plan for private equity:

NOW THEREFORE, BE IT RESOLVED THAT THE ALASKA RETIREMENT MANAGEMENT BOARD adopts the 2021 Annual Tactical Plan for Private Equity.

DATED at Juneau, Alaska this __3rd__ day of December 2021.

Chair

ant & Williams

ATTEST:

Secretary Harby

ALASKA RETIREMENT MANAGEMENT BOARD

Private Equity Annual Tactical Plan Staff Summary and Overview

Sean Howard, CFA
State Investment Officer

Key Board Decisions

Determine Investment Objective

- Fund's Purpose
- Governance who makes which decisions?

Determine Asset Allocation

- Strategic
- Tactical

Oversee Implementation

- Manager Structure number and types of manager allocations.
- Manager Selection

Monitor Results

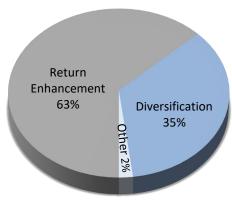
- Are the fund, asset classes and mandates performing as expected?
- Are they achieving objectives?

ARMB Private Equity Program

- Private Equity Overview
- Market Review
- ARMB Portfolio
- 2020 Commitments
- Pacing Model
- Plan Recommendation
- Summary

Overview – Private Equity Investment

Why do fund sponsors invest in private equity?



Source: Goldman Sachs

 Private equity is expected to deliver long-term returns in excess of the public markets.

Annualized Returns as of June 30, 2021

Investment Type	5 Year	10 Year	20 Year
Cambridge - All Private Equity	19.7%	14.1%	12.3%
Public Equity	15.0%	11.1%	8.1%
Difference	4.7%	3.0%	4.2%

Source: Refinitiv/Cambridge Associates. Private equity returns are pooled IRR's across all regions and do not represent top quartile returns. The public equity return is an equally weighted blend of the S&P 500, Russell 2000, and MSCI EAFE and is a time-weighted return (TWR) which is not directly comparable to an internal rate of return (IRR).

Overview – Unique Characteristics

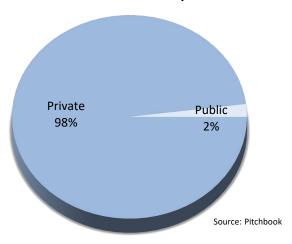
Positive Characteristics:

- Larger, more diverse investment universe
- Less efficient companies opportunity to create value
- Less efficient markets pricing opportunities
- Control and alignment of interests
- Managed for long-term value

Other Characteristics:

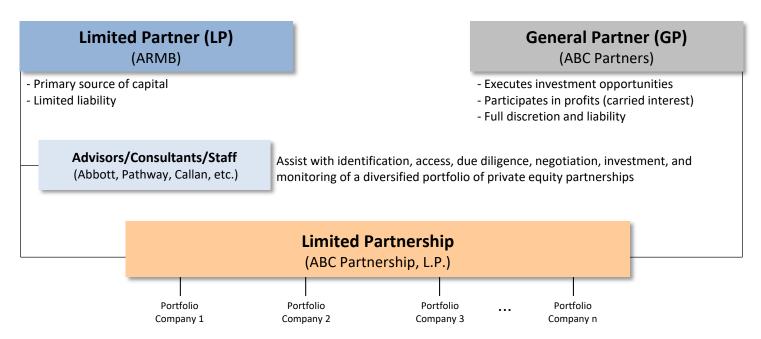
- Illiquid, long-term investments
- High fees and J-curve
- Potential for high leverage
- Portfolio transparency and valuation issues
- Incomplete data and benchmarks

Public and Private Companies

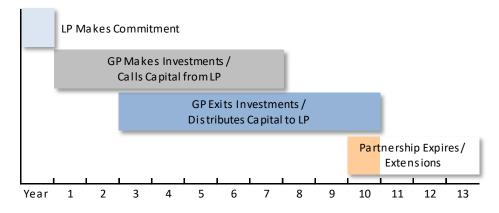


Overview – Structure

Private equity investments are typically made through limited partnerships:



Private equity liquidity and cash flow characteristics:



Overview – Primary Strategies

Private equity partnerships are classified into three primary groups:

Venture Capital Investments in companies developing new products and services. Value

creation focuses on managing entrepreneurial companies through high

growth. Investments are generally riskier, minority positions.

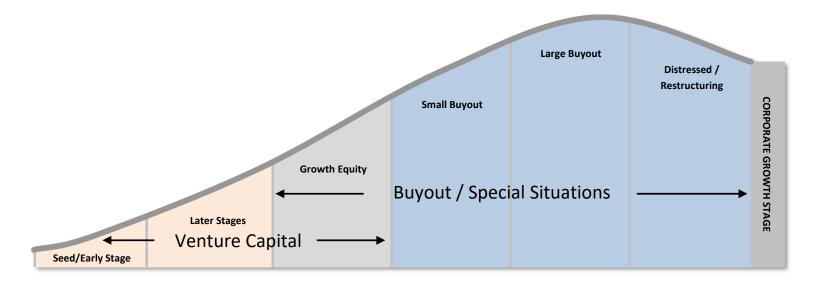
Buyout Control investments in more mature operating companies. Value creation

generally focuses on driving operational and capital structure efficiency.

Special Situations Generally buyout style investments with a specialty focus; including groups

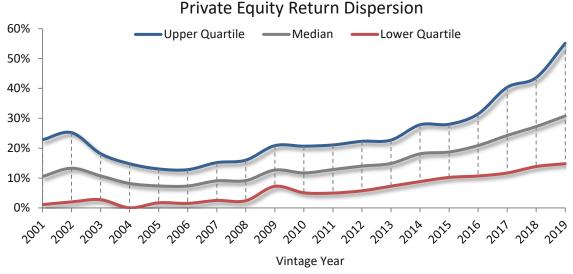
that have a specific industry, investment style, or capital structure focus.

Value creation focuses on specialized skills and efficiency.



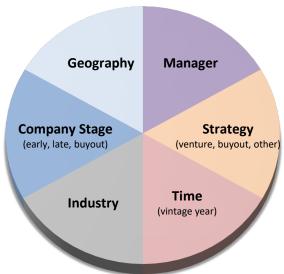
Overview - Program Implementation

 Wide performance dispersion leads to opportunities but also makes manager access, selection, and due diligence critical. Consistently investing with high quality managers is key.



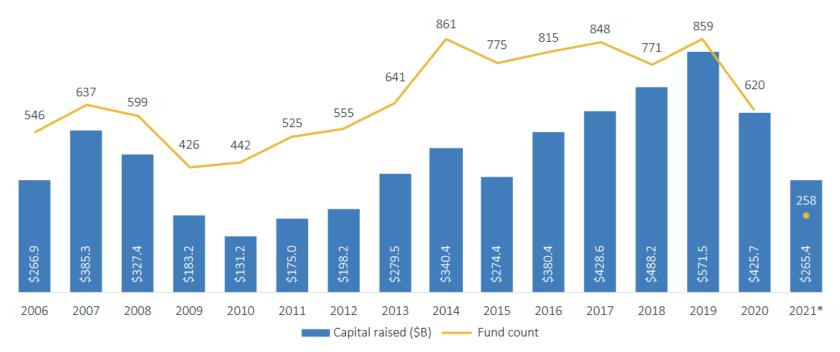
Source: Refinitiv/Cambridge as of June 30, 2021

 The goal is to build a portfolio of quality partnerships diversified by strategy, industry, geography, company stage, manager, and time.



Market – Fundraising

- Fundraising declined in 2020 due to COVID-related uncertainty but quickly rebounded with 2021's fundraising likely to surpass last year's number.
- Due diligence and annual meetings have settled into a virtual format.
- Terms will likely continue to be GP-friendly as demand for private equity increases,
 with funds closing relatively quickly and oftentimes oversubscribed.



Source: PitchBook | Geography: Global *As of June 30, 2021

Market – Deal Activity

- Investment activity is on track for a record-setting year in 2021.
- The strengthening economic outlook, dry power availability, and accommodative debt markets have resulted in deal activity not seen since before the global financial crisis.
- U.S. buyout deal pricing (11.1x EBITDA) and leverage multiple (5.9x EBITDA) remain elevated but have stabilized.



Source: PitchBook | Geography: US *As of June 30, 2021

Market – Exit Activity

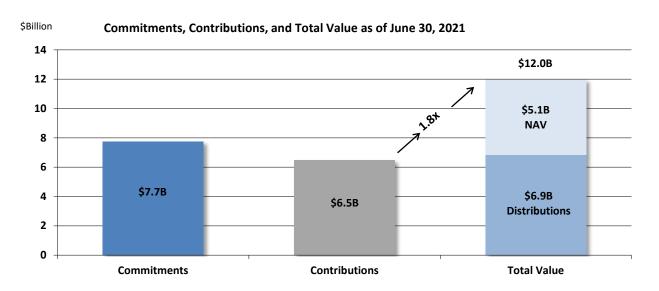
- Private equity exit activity during the first half of 2021 is on a record-setting pace.
- Exit routes have been equally split between public listings, corporate acquisitions, and sponsor-backed acquisitions from a value standpoint.
- The valuation premium currently seen in the public markets has driven public listings as a source of exit to its highest level in the past decade.



Source: PitchBook | Geography: US *As of June 30, 2021

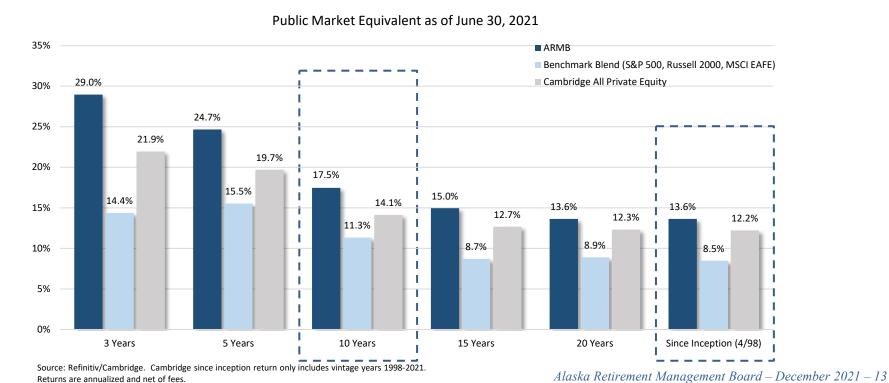
ARMB Portfolio Performance

- The ARMB directly invests in private equity and uses gatekeepers, Abbott Capital Management (1998) and Pathway Capital Management (2001). The asset allocation began at 3% and has increased over time to the current level of 14%.
- Overall, the program is in the second quartile with a 13.6% internal rate of return (IRR) and 1.8x multiple on invested capital (MOIC) compared to the Cambridge median IRR of 12.2% and 1.5x MOIC.
- The ARMB has three vintage years in the first quartile, twenty in the second quartile, one in the third quartile, and no vintage years in the fourth quartile.
- The 10-year time-weighted return for the private equity portfolio is 18.0% versus 11.1% for the PE benchmark blend (1/3 S&P 500, 1/3 Russell 2000, 1/3 MSCI EAFE).



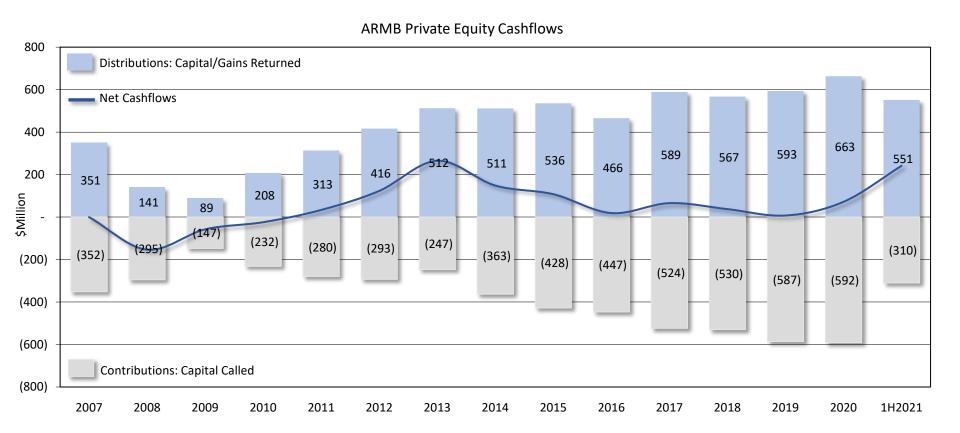
ARMB Public Market Equivalent (PME)

- The ARMB's long-term benchmark for private equity is an equal-weighted blend of the S&P 500,
 Russell 2000, and MSCI EAFE + 2%.
- Since inception, ARMB's private equity portfolio has generated a 13.6% internal rate of return (IRR) – outperforming the benchmark blend by over 5%.
- Outperformance has generated \$3.7 billion in additional fund value compared to investing in the public equity markets alone.
- Over the past 10 years, the portfolio IRR is 17.5%, a greater than 6% outperformance over the benchmark PME.



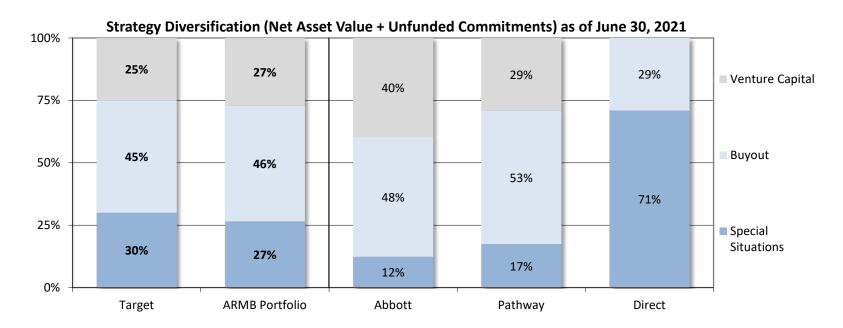
Portfolio Cash Flows

- Net cash inflows over the past five years were \$429 million largely driven by distributions received during the first half of 2021.
- Contributions and distributions remain steady and elevated over recent years as a result of the growth in allocation to private equity and the maturity of the program.



Diversification by Strategy

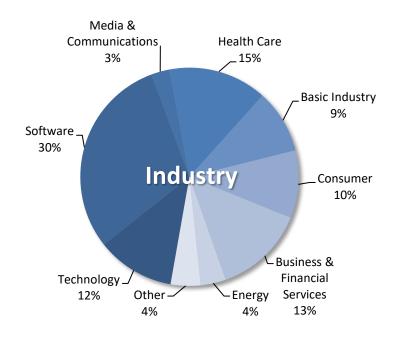
- The portfolio is well-diversified by private equity strategy across venture capital, buyout, and special situations.
- Strategy exposures are within policy bands and near target:
 - Abbott's portfolio is overweight venture capital. Abbott has decreased VC investments in recent years to lower this exposure.
 - The direct partnership portfolio is weighted towards well-diversified special situations investments and has no direct venture capital exposure due, in part, to overweights in the rest of the portfolio.

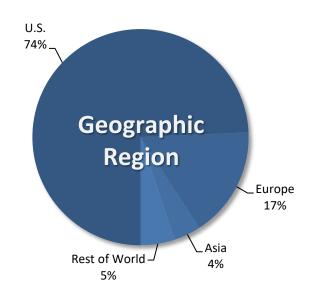


Diversification by Portfolio Company

The portfolio is well-diversified by underlying portfolio companies:

- Industry exposure is largely reflective of the broader transaction volume within private equity. Software remains the largest industry weight but also has a higher diversification component due to exposure to a variety of end-markets.
- International investments now account for 26% of the portfolio.





2020 Commitments

- ARMB's commitment target for 2020 was \$600 million.
- \$571 million was committed during the year.
- Pathway's co-investment program made ten investments totaling \$24 million while
 Abbott made three co-investments totaling \$9 million.
- Commitments were diversified by investment strategy, with venture capital commitments returning to a more normal level after under allocating in recent years.

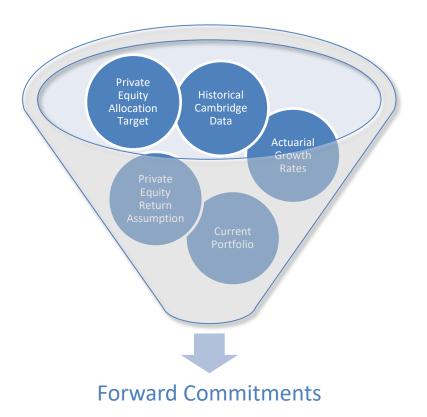
Commitments for 2020 (\$millions)

			Number of	Investment Strategy					
Manager	Target	Actual	Number of Investments	Venture	%	Buyout	%	Special Situations	%
Abbott	\$200	\$176	23	\$41	23%	\$115	65%	\$20	11%
Pathway	\$200	\$195	33	\$41	21%	\$109	56%	\$45	23%
Direct	\$200	\$200	3	\$0	0%	\$100	50%	\$100	50%
Total	\$600	\$571	59	\$82	14%	\$324	57%	\$165	29%

Commitments in 2021 are expected to be close to the target of \$600 million.

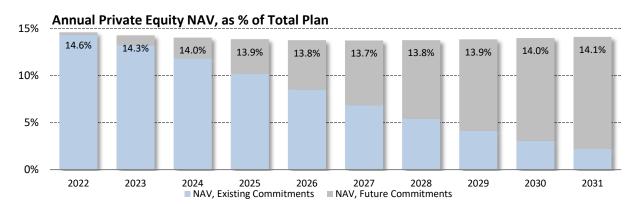
Pacing Model

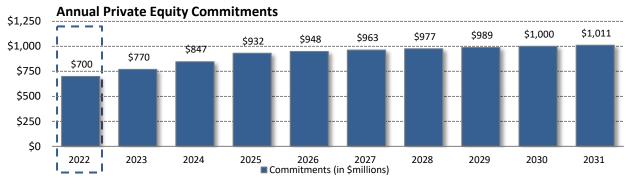
- Staff uses a pacing model to project the forward commitments needed to achieve ARMB's targeted allocation to private equity.
- The illiquid nature and cash flow characteristics of private equity necessitate a forward projection to guide the portfolio towards the target allocation over time.
- Considerations:
 - Denominator effect: sharp declines in liquid asset classes result in over-allocations to illiquid asset classes
 - Annual commitment decisions are long-term decisions
 - Vintage year diversification



Commitment Pacing Recommendation

- ARMB's long-term allocation target for private equity increased from 12% to 14% at the beginning of FY22.
- Although private equity is slightly above target, an increase in commitment pacing is needed to offset projected distributions and maintain the targeted allocation.
- Staff recommends a 2022 commitment target of \$700 million, split equally between Abbott, Pathway, and direct partnership investments.





Summary

- Private equity's allocation increase for FY22 reflects the growing role the asset class plays in achieving the plan's return target.
- Staff expects private equity to continue to deliver a meaningful return premium over public markets as it has done in recent years.
- ARMB has a mature, well-diversified private equity program with performance that has had a significant positive impact on the plan.
- As the asset class grows, staff will continue to evaluate ways to improve the program with a focus on return/cost efficiency.

Appendix A: 2020 Commitments – Buyout 1 of 2

Strategy	Partnership Fund	Description	Amount	% Total	Date	Manager
	Charlesbank Equity Fund X	Strategy focused on relative value investments across five industry verticals: consumer, industrials, business services, tech & tech infrastructure and healthcare.	\$24.0	4.2%	11/20/20	Abbott
	Charlesbank Equity Overage Fund X	The fund will have a concentrated portfolio construction consisting of opportunities that exceed the available capacity of Fund X.	\$6.0	3.7%	11/20/20	Abbott
	Clearlake - Icon (Sec)	Single-asset continuation vehicle for a provider of mid-market-focused enterprise- grade IT management solutions, led by Clearlake.	\$4.0	0.7%	9/14/20	Pathway
	Clearlake - Icon (Sec)	Single-asset continuation vehicle for a provider of mid-market-focused enterprise- grade IT management solutions, led by Clearlake.	\$5.0	0.9%	9/14/20	Abbott
	CVC Capital Partners VIII	Control-oriented buyout investments of large-cap European and North American companies across a variety of sectors.	\$19.9	3.5%	5/15/20	Abbott
	CVC Capital Partners VIII	Control-oriented buyout investments of large-cap European and North American companies across a variety of sectors.	\$10.1	1.8%	5/1/21	Pathway
Buyouts	Fidentia Fortuna Co-Invest	Follow-on co-investment alongside Centerbridge Capital III in a London-based insurer within the Lloyd's of London market.	\$1.1	0.2%	10/29/20	Pathway
	GTCR Fund XIII	Growth investments in financial services, healthcare, technology, media and telecommunications, and business services companies in North America.	\$30.0	5.3%	10/27/20	Abbott
	GTCR Fund XIII	Growth investments in financial services, healthcare, technology, media and telecommunications, and business services companies in North America.	\$10.0	1.8%	11/2/20	Pathway
	H&F Samson Secondary	SPVs for three portfolio companies from H&F VII.	\$4.3	0.8%	12/23/20	Abbott
	H&F Speedster	Co-investment alongside H&F IX in a pan-European automotive online marketplace operator.	\$2.4	0.4%	2/27/20	Pathway
	HIG VI	Control investments in lower-middle-market, U.S based companies operating in a variety of industries that are undermanaged and/or stressed.	\$6.0	1.1%	7/20/20	Pathway
	Insight RF Holdings	Follow-on co-investment alongside Insight X in a provider of SaaS-based cyberthreat intelligence solutions.	\$0.0	0.0%	6/30/20	Pathway
	Insight RF Holdings	Follow-on co-investment alongside Insight X in a provider of SaaS-based cyberthreat intelligence solutions.	\$0.0	0.0%	6/30/20	Pathway
	Lions Co-Invest	Co-investment alongside Summit GE X in the largest independent integrated care- delivery provider in Miami-Dade County.	\$3.2	0.6%	8/21/20	Pathway
	Marlin Heritage Europe II	Control-oriented platform investments in information technology, business services, and healthcare services companies primarily in Europe.	\$9.9	1.7%	7/3/20	Pathway
	MDP ACM 2	Follow-on co-investment alongside Madison CP VII in a market-leading, clinically focused contract development and manufacturing organization.	\$0.1	0.0%	2/6/20	Pathway
	MRI	Co-investment alongside Harvest VIII in a global provider of end-to-end real estate management software solutions to owners, managers, and investors.	\$2.3	0.4%	2/10/20	Pathway

Appendix A: 2020 Commitments – Buyout 2 of 2

Strategy	Partnership Fund	Description	Amount	% Total	Date	Manag
	NC Vinland Co-Invest	Co-investment alongside Nordic IX in a provider of electronic collection services and analysis of critical patient data for pharmaceutical companies operating clinical trials.	\$4.0	0.7%	2/4/20	Pathwa
	New Mountain Partners VI	Growth-oriented buyout firm focusing on management buyouts, growth equity transactions, build-ups, restructuring and leveraged acquisitions.	\$50.0	8.8%	4/10/20	Direc
	Nordic X	Control buyouts of mid-market healthcare, technology and payments, and financial services companies in Northern Europe.	\$10.5	0.4%	7/20/20	Pathw
	Odyssey VI	Control buyout investments in established U.S. middle-market companies operating in the industrials and business services sectors.	\$15.0	2.6%	2/12/20	Pathw
	Prism	Co-investment alongside Quad-C IX in a New Jersey–based ophthalmology platform.	\$2.0	0.3%	6/30/20	Pathw
	Quad-C HSID	Co-investment alongside Quad-C IX in a provider of eDiscovery and managed-review solutions for middle- and large-market corporations and law firms.	\$1.8	0.3%	1/31/20	Pathv
Buyouts	Quad-C HSID	Follow-on co-investment alongside Quad-C IX in a provider of eDiscovery and managed-review solutions for middle- and large-market corporations and law firms.	\$0.1	0.0%	7/29/20	Pathv
	REP Coinvest III	Co-investment alongside Ridgemont III in a national provider of mandatory training, certification, and compliance solutions to regulated end-markets.	\$2.0	0.4%	6/19/20	Path
	REP Coinvest III	Co-investment alongside Ridgemont III in a national provider of mandatory training, certification, and compliance solutions to regulated end-markets.	\$4.3	0.7%	6/19/20	Abb
	Resolute V	Control-oriented buyout investments in middle-market companies operating across a broad range of industries in North America.	\$50.0	8.8%	7/27/20	Dire
	STG VI	The firm pursues control buyouts of mid-market software businesses. The team is operationally focused and employs a value-oriented, theme-based approach.	\$11.1	1.9%	10/23/20	Abb
	Thoma Bravo Discover III	Control-oriented buyouts in middle-market software companies in the U.S. with recurring revenues and high retention rates.	\$10.0	1.8%	5/29/20	Path
	Thoma Bravo XIV	Control-oriented buyouts of large-market software companies in the U.S. with recurring revenues and high retention rates.	\$10.0	1.8%	5/29/20	Path
	Trident VII Co-Invest A	Follow-on co-investment alongside Trident VII (Stone Point) in a provider of cost containment, return to work, software, and technology-enabled solutions to workers' compensation and auto payors.	\$0.0	0.0%	7/29/20	Path
	T-VIII Co-Invest	Co-investment alongside Trident VIII (Stone Point) in a provider of diversified professional and business services, including valuation, risk management, and bankruptcy administration.	\$4.0	0.7%	3/6/20	Path
	Vitruvian Investment Partnership IV	Vitruvian invests in asset light, cash generative businesses with a sector focus on business & consumer services, financial services, life science & healthcare, media and technology, telecoms & internet.	\$10.3	1.8%	6/3/20	Abb
	Welsh, Carson, Anderson & Stowe XI	Buyout strategy focused on information services and healthcare companies in North America.	\$0.2	0.0%	5/11/20	Abb
	Buyout Subtotals		\$323.6	56.7%		

Appendix A:2020 Commitments – Venture and Special Situations

Strategy	Partnership Fund	Description	Amount	% Total	Date	Manage
	Armis	Co-investment alongside Insight X and XI in a cloud-based cybersecurity platform for managed, unmanaged, and internet of things (IoT) devices.	\$1.3	0.2%	1/31/20	Pathway
	Battery Ventures XIII	Multi-stage venture fund with a focus on information technology companies primarily in North America.	\$6.0	1.1%	2/11/20	Abbott
	Battery Ventures XIII Side Fund	Side Fund to participate in larger growth an buyout deals alongside main Battery Ventures fund.	\$4.0	0.7%	2/11/20	Abbott
	Canaan XII	Seed- and early-stage investments in technology and healthcare companies, primarily in the U.S.	\$10.0	1.8%	4/24/20	Pathwa
	CRV XVIII	Early-stage venture fund focused on investments in enterprise technology, consumer, and bioengineering/healthcare companies primarily in the U.S.	\$10.0	1.8%	7/2/20	Abbot
	GGV Capital VIII	GGV is a multi-stage venture capital firm that invests in technology companies primarily in North America, China, and Southeast Asia ("SEA").	\$6.0	1.1%	10/30/20	Abbot
	GGV Capital VIII Plus	Expansion-stage venture fund focused on technology companies in the U.S. and China.	\$1.5	0.3%	10/30/20	Abbot
Venture Capital	GGV Discovery III	Early-stage venture fund that makes seed and Series A investments in technology companies in the U.S. and China, with a particular focus on China.	\$2.5	0.4%	10/30/20	Abbot
	Holtzbrinck VIII	Seed- and early-stage investments in digital businesses, primarily in Europe.	\$10.8	1.9%	9/16/20	Pathwa
	Mayfield Select II	Later-stage financing rounds in existing Mayfield portfolio companies and in new investments in which the main funds have received an appropriate allocation.	\$4.9	0.8%	3/17/20	Pathwa
	Mayfield XVI	Seed and early-stage investments in consumer and enterprise software companies in the U.S.	\$4.5	0.8%	3/17/20	Pathw
	NEA BH SPV II	Health insurance and related services to individuals, families, and Medicare recipients.	\$4.9	0.9%	9/2/20	Abbo
	Versant Venture Capital VIII	Global early stage biotechnology fund.	\$5.0	0.9%	11/19/20	Abbo
	Versant Voyageurs II	Versant Voyageurs II will co-invest in six to eight Series A companies alongside Versant Ventures Fund VIII.	\$1.3	0.2%	11/19/20	Abbo
	YC Early 2020	Seed-stage investments in various startups made through Y Combinator's biannual accelerator program.	\$3.0	0.5%	8/21/20	Pathw
	YCCF 2020	Follow-on investments in companies that have completed Y Combinator's accelerator program.	\$7.0	1.2%	8/21/20	Pathw
	Venture Capital Subtotals		\$82.6	14.5%		,
	Fortissimo V	Control and influential minority, equity-related investments in global technology and industrial companies that utilize Israel-related technologies.	\$15.0	3.3%	1/30/20	Pathw
	Insight XI	Minority and control investments in growth-oriented software, software-enabled services, and internet businesses, with a primary focus on North America.	\$10.0	1.8%	1/21/20	Pathw
	Neuberger Berman Secondary Opportunities Fund V	Invests primarily in North American and Western Europe buyout funds in a variety of industries.	\$100.0	17.5%	9/8/20	Direc
pecial Situations	Spectrum IX	Growth equity and buyout investments in high-growth companies in the internet, software, digital media, and information services markets, primarily in the U.S.	\$10.0	1.8%	4/9/20	Pathw
	Spectrum IX	Spectrum invests in information services, software and internet companies, both in B2B and consumer primarity in North America.	\$20.0	3.5%	4/9/20	Abbo
	TCV XI	Growth equity investments in information technology companies, primarily in the U.S. and Western Europe.	\$10.0	1.8%	10/2/20	Pathw
	Special Situations Subtotals		\$165.0	28.9%		
obott Subtotal			\$176.2	30.9%		
athway Subtotal			\$195.0	34.1%		
irect Subtotal			\$200.0	35.0%		
OTAL (\$MM)			\$571.2	100.0%		